and their niches interact with breast cancer TM. The knowledge obtained from these studies is an important piece in understanding tumor-tissue interaction. Investigations of the tumor–stromal and stromal–stromal cross-talk involved in cellular migration in cancer can lead to novel therapeutic strategies for targeting cancer stem cells as well as tumor cells.

Keywords: Tumor Microenvironment, Tissue Resident Stem Cells, Breast Cancer, Cell Migration, Cancer Stem Cell

Os-9: Xenotransplantation of Cryopreserved Human Ovarian Tissue into Murine Back Muscle

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Objective: Ovarian tissue (OT) cryopreservation and transplantation are options for fertility preservation in young female cancer patients.
Materials and Methods: We investigated xenotransplantation of human OT into back muscle (B) of severe combined immunodeficiency mice. OT follicle content was evaluated by stereomicroscopy and pre-transplantation. Xenograft survival, follicular development (with/without FSH administration), apoptosis and vascularization were compared in B- versus K-site (under the kidney capsule) several times after grafting using histology, immunohistochemistry and magnetic resonance imaging. *In vitro* maturation (IVM) was also performed.
Results: Anastomoses which developed from existing human and invading murine vessels were seen in OT at both sites, but angiogenesis was more prominent at the B- than K-site ($p<0.001$). Vascularization and follicle size were correlated in the B-group (Spearman's coefficient 0.73; $p<0.001$). FSH increased early (8 days) micro-vessel formation in B but not in K grafts ($p<0.0001$), versus no FSH). B-site grafts showed a better histological morphology and survival ($p<0.0084$), formation of larger antral follicles ($p<0.005$), more metaphase-II (MII) oocytes, growing follicles ($p<0.028$) and slightly fewer apoptotic follicles than K grafts. One MI oocyte from B underwent IVM and reached MII stage next day.
Conclusion: To our knowledge, this is the first report of MII and IVM–MII oocytes obtained from B xenografts. We report the largest oval-shaped antral follicles containing an MII oocyte obtained after OT xenotransplantation to date. Xenografting in the mouse B should be further explored as a method for human OT transplantation.

Keywords: Xenotransplantation, Ovary Cryopreservation, Human Vary, Muscle, Metaphase II Oocyte

Os-10: Co-transplantation of hESC-NPs and SCs in a Rat Spinal Cord Contusion Injury Model Elicits a Distinct Neurogenesis and Functional Recovery

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Co-transplantation of neural progenitors (NPs) with Schwann cells (SCs) might be a way to overcome low rate of neuronal differentiation of NPs following transplantation in spinal cord injury (SCI) and the improvement of locomotor recovery. In this study, we investigated human embryonic stem cells derived neural progenitor cell (hESC-NPs) potential for neuronal differentiation and functional recovery when co-cultured with adult rat purified SCs in vitro and co-transplanted in a rat acute model of contused SCI. Co-cultivation results revealed that the presence of SCs provided a consistent status for hESC-NPs and recharged their neural differentiation toward a predominantly neuronal fate. Following transplantation, a significant functional recovery was observed in all engrafted groups (NPs, SCs, NPs+SCs) relative to the vehicle and control groups. We also observed that animals receiving co-transplants instituted a better state as assessed with the BBB functional test. Immunohistofluorescence evaluation five weeks after transplantation showed invigorated neuronal differentiation and limited proliferation in the co-transplanted group when compared to the individual hESC-NPs grafted group. These findings have demonstrated that the co-transplantation of SCs with hESC-NPs could offer a synergistic effect, promoting neuronal differentiation and functional recovery.

Keywords: Rat Schwann Cell, Human Neural Progenitor, Co-Culture, Co-Transplantation, Differentiation, Spinal Cord Injury